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Transport Research and
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ALBERTA NORTHERN TRANSPORTATION STUDY

STATUS REPORT

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ALBERTA NORTHERN TRANSPORTATION STUDY

STATUS REPORT

MAY 1974

Transport Research & Development Div
Department of Industry & Commerce

PREAMBLE

The interest of Alberta in northern transportation facilities and routes extends into the entire Northwestern Canadian Development Region. Any development within Alberta must therefore be co-ordinated with facility developments in the Northwest Territories, the Yukon, British Columbia and Saskatchewan.

A fundamental premise of the Alberta Northern Transportation Study is that transportation is not an end in itself, rather, it exists to serve economic and social purposes. With respect to Northern Alberta, the purposes are both resource and social development. Therefore, the purpose of this study is to determine the economic potential of the study area; the desired social changes, and the transportation system improvements necessary to achieve economic and social objectives.

The study, which is multi-modal in nature covering road, rail, water, and air facilities, goes beyond DREE requirements and is a recognition by both the Federal Government and our Department of Industry and Commerce that some developments stand on their own merits while others do not. Transportation access has to be provided for the northern parts of the Province. M.O.T. and DREE are the primary Federal departments involved in the access improvement program. This joint Federal/Provincial program began this year.

It must be emphasized that the identified priorities contained in the study should be viewed only in the context of the 1974-75 construction period. They do not in any way reflect the long term priorities for northern improvements or developments. These are now being cosidered and will be included in the final report.

Similarly, the interim DREE Sub-agreement details only projects on which the necessary engineering is complete and hence can be finished during the 1974-75 construction period.

The final study (Phase 2) forms not only the required basis for a long term funding agreement between the Federal Government and Alberta, but will also form the basis for Federal action beyond our boundaries to complete an integrated co-ordinated transportation system in support of development.

STATUS REPORT

1. Provincial briefing meeting notes, October 23, 1973 (Appendix A)

   1.1 Northern Development's interests were represented by Dr. B. Carney while Highways and Transport was represented by R. H. Cronkhite.

2. Agenda - Federal/Alberta meeting, October 24, 1973 (Appendix B)

   2.1 The research requirements, study approach, terms of reference and completion dates were discussed.

   2.2 Northern Development was represented by Dr. B. Carney and B. Brese, Highways and Transport by R. H. Cronkhite and Industry and Commerce by D. J. McEachran and J. W. Telford.

3. Preliminary Outline (Appendix C)

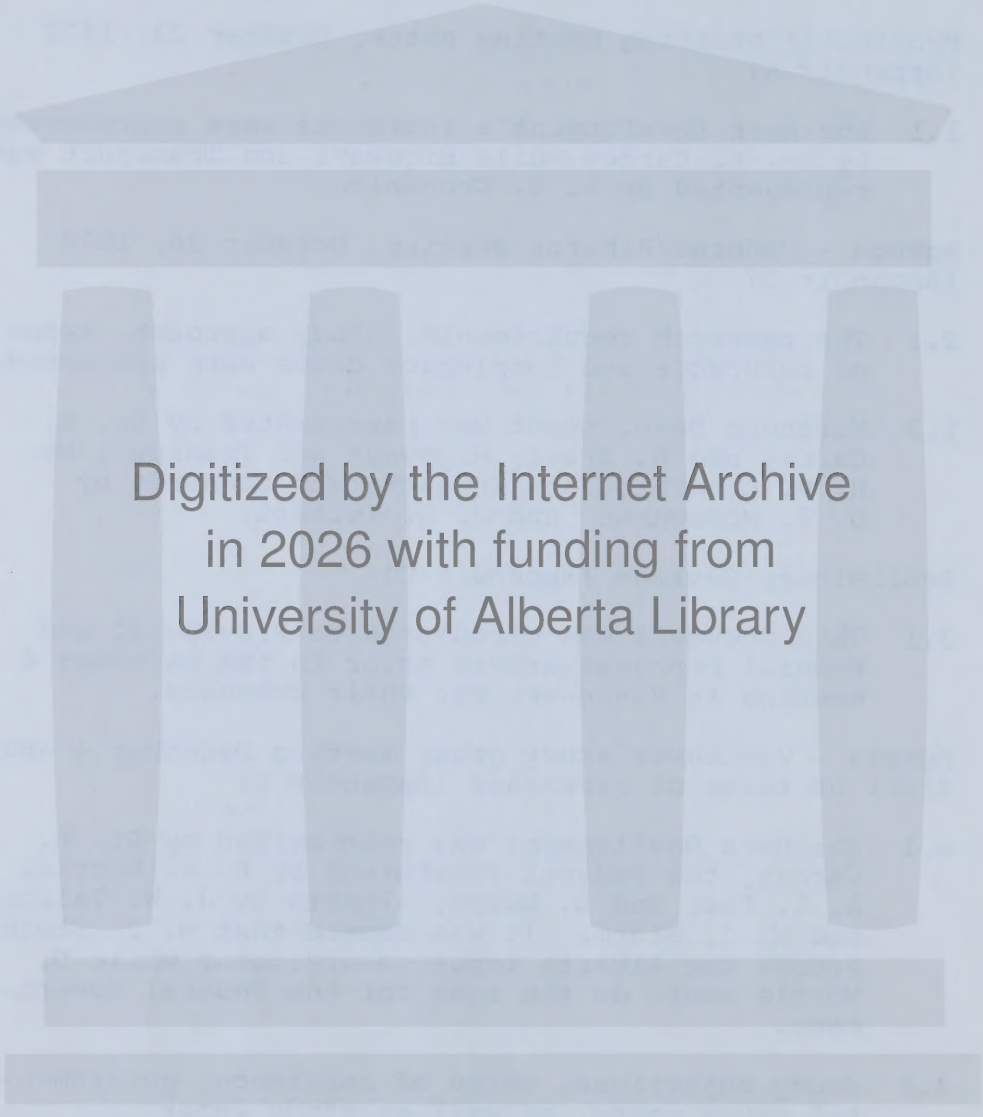
   3.1 This document was circulated to Provincial and Federal representatives prior to the December 4 meeting in Vancouver for their comments.

4. Agenda - Vancouver study group meeting December 4 and draft of terms of reference (Appendix D)

   4.1 Northern Development was represented by Dr. B. Carney, the Federal Government by D. W. Morris, A. L. Peel and L. Burke, Alberta by J. W. Telford and M. J. Sturm. It was agreed that M. J. Sturm become the Alberta input co-ordinator while D. Morris would do the same for the Federal Government.

   4.2 Study objectives, terms of reference, governmental study group, as well as study input co-ordinators and completion dates were discussed and agreed upon.

5. Revised terms of reference incorporating changes discussed during the Vancouver meeting, outline for the preliminary study (Phase 1) as well as for Final study (Phase 11) (Appendix E)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https://archive.org/details/ableg_33398001374783

5.1 This material was circulated to all study participants in both Federal and Provincial departments.

6. Letter from Hon. F. H. Peacock to Hon. C. Copithorne dated December 11, 1973, advising of study status study objectives and co-ordination (Appendix F)

6.1 Recognition was given to Northern Developments overall policy responsibility and role in this area and hence their attendance at the Vancouver meeting.

7. Letter from J. W. Telford to L. D. Mabbott dated December 20, 1973 (Appendix G)

7.1 Advised Federal and Intergovernmental Affairs that the Northern Study is being undertaken and of study participants.

7.2 Indicates Northern Developments involvement and importance in Study.

7.3 Indicates that a co-ordinated position on all transportation matters is required

7.4 Advises that Phase 1 of the study will be completed by January 31, 1974, which will allow the Federal and Alberta Governments to enter into a one-year agreement on immediate priority terms.

8. Copy of Phase I (Preliminary) report (Attached)

8.1 Recommended social priorities as prepared by Northern Development are included on pages 8 and 9. These do not in any way reflect the long-term priorities for northern improvements or development based on social need.

8.2 The report indicates that the priorities should be viewed only in the context of the 1974-75 construction period.

8.3 Drafts of this report were reviewed by the main Federal and Alberta Government departments. Revisions were made in accordance with suggested changes.

9. Notice of meeting to discuss the Phase II study as well as a list of provincial department representatives invited to attend (Appendix H)

   9.1 Since the final report requires more detailed inputs all department representatives were requested to attend.

   9.2 Study inputs, outline, terms of reference and completion schedule were discussed.

   9.3 Each department's input was to be channeled through a steering or working committee member. (Appendix I)

10. Second meeting notice, May 2, 1974, study flow chart and outline (Appendix J)

   10.1 This meeting was held with Federal department representatives present.

   10.2 Suggested changes resulting from the April 18th meeting were noted.

   10.3 All department members agreed to provide input for the Phase II report.

   10.4 The Phase II study scheduled for August 31st completion date in order to meet DREE Agreement requirements is well underway.

A P P E N D I X A

NOTES - PROVINCIAL BRIEFING

1. Purpose of Meeting
   Plan expansion of the Northwest Transportation Plan

2. Objective
   To get Federal commitment to Alberta's oriented northern projects that will improve the costs of transport and development of trade.

3. Background

4. Interest of Provincial Groups

   4.1 Northern Development
   4.2 Intergovernmental Affairs (Wood Buffalo, DREE?)
   4.3 ARR (through route from north, running rights, BCR extension)
   4.4 Industry and Commerce
   4.5 Department of Highways (Alberta's Highway System)

QUESTIONS:

1. Is there any particular direction you wish emphasized?

2. Are there any particular priorities you wish identified?

3. What input to research will your Group undertake?

4. Are there any time restrictions for completion of study or start of projects that your Group has identified?

Transport Research and Development Division
October 23rd, 1973

A P P E N D I X B

FEDERAL/ALBERTA MEETING - OCTOBER 24, 1973

NORTHERN TRANSPORT DEVELOPMENT

- AGENDA -

1. Introduction - purpose and background

2. Alberta's interest and position - D. J. McEachran

3. MOT's interest and position - A. L. Peel

   Identification of research, agreements or development since February 1972.

4. Discussion of projects or direction of research required

   4.1 Road

   4.2 Air

   4.3 Water

   4.4 Rail

   4.5 Pipeline

5. Study approach, terms of reference, and time.

APPENDIX C

Government of Canada / Gouvernement du Canada

MEMORANDUM · NOTE DE SERVICE

FILE

SECURITY CLASSIFICATION DE SECURITE	
OUR FILE - N REFERENCE	550-31
YOUR FILE - V REFERENCE	
DATE	November 28, 1973

D.W. Morris

Northern Alberta Transportation Study
Preliminary Outline

This memo contains a suggested outline of the process to be followed in completing the Northern Alberta Transportation Study.

Step I, Specification of the terms of reference for the study

- planning period
- study area boundaries
- costing and staffing

Step II, Preparation and circulation of an annotated bibliography to all study participants

Purpose: To acquaint all study participants with the available reports and background data dealing with the study area.

Step III, Circulation of study outline to all participants and the determination of data specifications for each stage of the study

Purpose: To elicit critical comment on the organization of the study and to determine the specific data inputs that are required and the data outputs that will be generated at each stage of the study.

Step IV, Preparation of Required Inventories

A. Natural Resources and Resource Potential

Purpose: To detail the type, quantity, quality, and economic potential of the natural resources within the study area.

a) Minerals - (metallic and non-metallic) general data requirements

A. Natural Resources and Resource Potential (cont'd)

- proven reserves
- potential reserves
- operating mines, mills, and output
- methods of mining
- waste products generated
- sepcial development problems
- sector specific transport requirements, costs, preferred mode
- existing markets
- market stability
- possible markets and market outlook
- competing sources of mineral and potential substitutes
- labour force requirements, skills required, mechanization potential

b) Hydrocarbons, general data requirements

- type, quantity, quality and value of hydrocarbons
- location of hydrocarbons
- proven reserves
- potential reserves
- sustainable production levels
- methods of recovery
- waste products generated
- special development problems
- sector specific transportation requirements, costs, preferred mode
- existing markets
- possible markets and market outlook
- competing sources of energy or potential substitutes
- labour force requirements, skills required, mechanization potential

c) Forestry, general data requirements

- types, quantity, quality and value of timber resources
- timber supply and product suitability
- allowable annual cut
- actual cut
- surplus timber supply
- boundaries of timber leases, etc.
- location and capacity of operating sawmills, pulpmills, plywood plants, etc.
- proposed sawmills, pulpmills, plywood plants, location and capacity.
- sector specific transportation requirement costs - preferred mode
- existing markets
- possible markets and market outlook
- competing sources of timber and potential

d) Fisheries, general data requirements

- type, quantity, quality and value of catch
- location of fisheries
- sustainable catch
- existing markets
- sector specific transport requirements
  preferred modes, costs
- possible markets and market outlook
- labour force requirements, number of employees
  and required skills

e) Agriculture, general data requirements

- arable acreage (by class)
- developed acreage (by class)
- crops and potential crops
- crop value
- markets and potential markets
- sector specific transportation requirements
  desired mode
- required related infrastructure, elevators,
  stockyards, etc.

f) Recreation and Tourism - general data requirements

- areas of recreational significance, type,
  features, location
- developed recreational areas, parks, etc.
- potential of undeveloped recreational areas
- present levels of recreational tourist activity,
  number of visits, expenditures, etc.
- potential recreational tourist activity

B. Human Resources

Purpose: To determine the socio-economic and demographic characteristics of people within the study area and to identify social problems that might be alleviated or aggravated by resource development and consequent population increase.

- general data requirements
- population - size, geographic distribution, forecasts,
- social indicators, unemployment, welfare rolls, infant
  mortality rate, death rate
- labour force characteristics - size, geographic
  distribution and forecasts
- community infrastructure - schools, hospitals,
  housing, churches, other public services
- Indian communities, location, size, population and
  forecasts

C. Environment

C. Environment (cont'd)

transportation corridors that have a minimum impact on the environment or failing this to determine especially fragile environmental areas to be avoided when choosing transportation corridors.

- general data requirements
- climate
- physiography
- hydrology
- soils
- wildlife habitat
- plant associations

D. Transportation System

Purpose: To describe the transportation system within the study area in terms of demand, capacity, standards, costs and the revenues generated. The following modes are considered:

- highways
- rail
- air
- water
- pipeline

E. Economic Base

Purpose: To describe the economic base of the study area, that is, to identify the basic and service sectors of the economy and determine economic linkages.

F. Exogenous Transportation Demand

Purpose: To determine the extent that transportation demands, generated in the N.W.T., Saskatchewan, and B.C. may affect existing or proposed transportation facilities in the study area.

Step V, Preparation of a Development Plan

Purpose: To devise a strategy to optimize the natural resource and human resource development potential of the study area (at this stage it is envisaged that the plan will deal with the more readily identifiable aspect of resource development, data permitting, a more detailed plan dealing with "secondary" development could be formulated).

Step VI, Preparation of Transportation Scenarios

Purpose: To describe in detail, alternative methods of satisfying anticipated transportation demands

from resource development.

Requires selection of transportation corridors, mode specifications, determination of standards, capital costs, operating costs, etc.

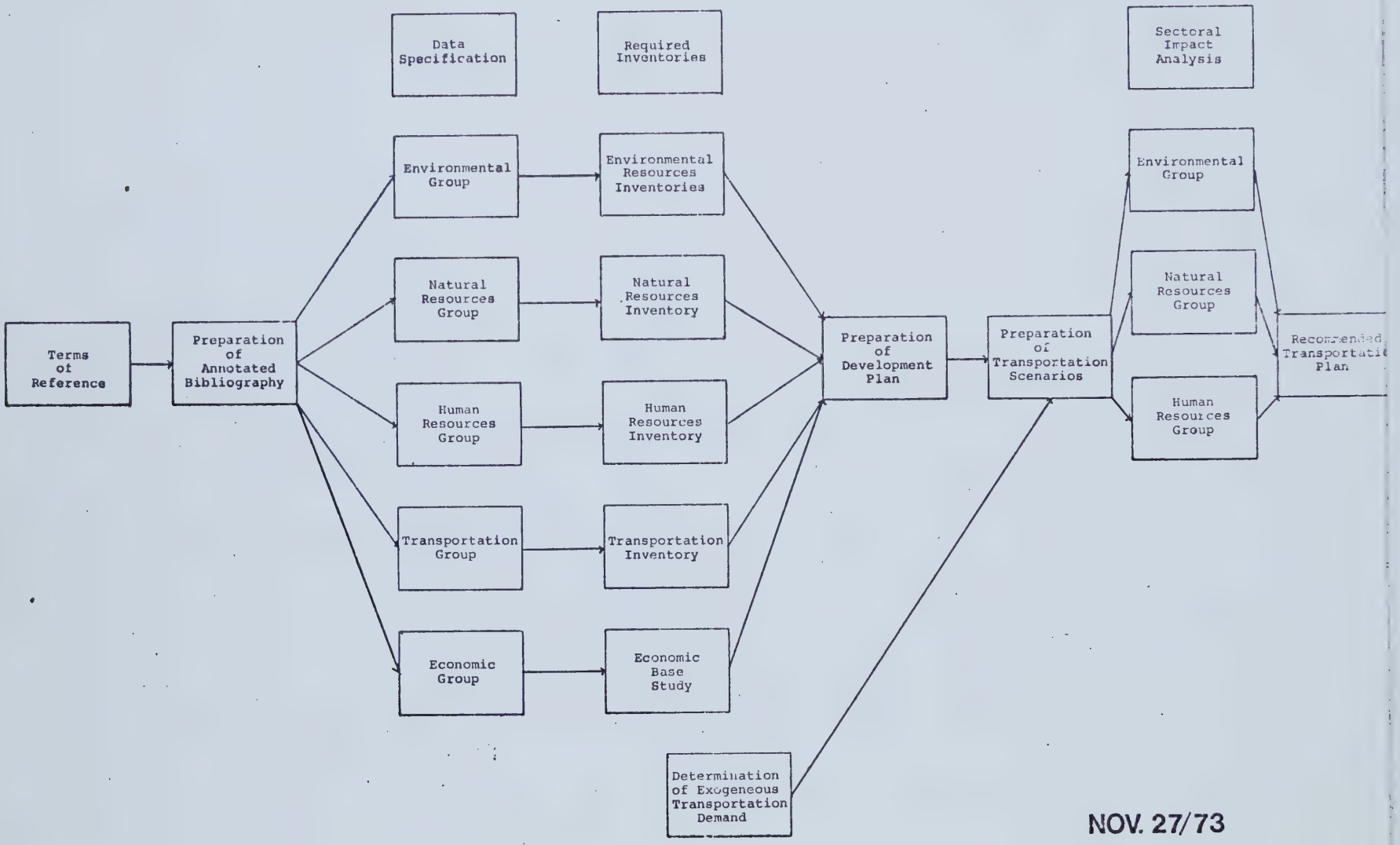
Step VII, Sector by sector analysis of the economic, environmental, and social impact of the proposed transportation improvements

Purpose: To allow experts in each resource field an opportunity to assess and comment on the expected impact of proposed transportation improvements (The amount of detail that can be generated by this analysis will depend upon the quality of the data produced during the inventory phase and the degree of detail provided in the development plan.)

Step VIII, Preparation of a Recommended Transportation Plan

D.W. Morris

NORTHERN ALBERTA TRANSPORTATION STUDY FLOW CHART



NOV. 27/73

A P P E N D I X D

Government of Canada / Gouvernement du Canada

MEMORANDUM **NOTE DE SERVICE**

TO / A: FILE

FROM / DE: D.W. Morris

SECURITY CLASSIFICATION / DE SÉCURITÉ:

OUR FILE - N/REFERENCE: 550-31

YOUR FILE - V/REFERENCE:

DATE: December 3, 1973

SUBJECT / OBJET: Agenda for Northern Alberta Transportation Study Meeting, Vancouver, December 4, 1973

1. Terms of Reference
2. Study Outline
3. Assignment of Areas of Responsibility for the Study
4. Cost Assignment
5. Co-ordination of Inter-Governmental and Inter-Departmental Study Components
6. Review Procedure
7. Interim Measures re Highway Program

D.W. Morris

Government of Canada / Gouvernement du Canada

MEMORANDUM **NOTE DE SERVICE**

FILE

D.W. Morris

SECURITY - CLASSIFICATION - DE SÉCURITÉ:

OUR FILE - N/RÉFÉRENCE: 550-31

YOUR FILE - V/RÉFÉRENCE:

DATE: December 3, 1973

SUBJECT OBJET: Northern Alberta Transportation Study
Terms of Reference (Suggested)

Objective of the Study

To determine the transportation system improvements that will be required to optimize natural and human resource development within the study area during the period 1974 to 1994 and an indication of priorities during that period.

The Study Area

Northern Alberta - Boundaries yet to be specifically defined.

The Study Group

An inter-governmental study group - Canada-Alberta will conduct the study. The Highway Branch of the Ministry of Transport and the Transportation Research and Development Division of the Alberta Department of Industry, Trade and Commerce will be the lead agencies. To the extent that it is possible the study will be conducted using resources available within the two Branches of government.

The Study Group is directed to:

Natural Resources

the renewable and non-renewable natural resources of the study area.

- to prepare an inventory of the renewable and non-renewable natural resources of the study area.
- to assess the economic potential of the renewable and non-renewable natural resources of the study area.
- to determine the benefits that will accrue to each renewable and non-renewable resource sector from proposed transportation system improvements.

Environmental Study

- To collect, document, and organize the existing environmental data within the study area.
- To prepare an inventory of the soils, wildlife habitat, plant associations, climate, physiography and hydrology of the study area.
- To define transportation corridors within the study area that minimize environmental damage.
- To determine environmental damage that might result from proposed transportation improvments.

Human Resources

- To collect, document and organize existing data on the demographic and social conditions of people living within the study area.
- To determine the living patterns, attitudes and aspirations of the people living within the study area.
- To determine population and labour force requirements necessary to carry out resouce development.
- To assess the potential impact of resouces development and

economic condition of the people living within the study area.

Economic Base

- To collect,document and organize existing data on the economic base of the study area.
- To determine the economic linkages that exist in the economy of the study area.
- To assess the potential impact of resource development on the economy of the study area.

Transportation

- To collect, document and organize existing data on the transportation system within the study area.
- To define the transportation system within the study area in terms of mode, capacity commodity movement, passenger movem standards, operating costs, and revenues.
- To determine existing and future transportation demand within the study area.
- To recommend transportation system improvements intended to contribute to optimal resource development.

Exogenous Transportation Needs

- To collect, document and organize existing data on the transportation systems in areas contigous to the study area.
- To determine existing and future exogenous transportation demands that will impinge on the transportation system in the study area.

Development

- To prepare a development plan that optimizes the natural

Reporting

By January 31, 1974 PHASE I

1. To compile a written report summarizing the results of the data collection, documentation and inventory phase of the study.

2. To recommend a program of immediate improvements to the transportation system of the study area to be undertaken in 1974, consistent with the long-term development possibilities of the area.

By August 31, 1974 PHASE II

To prepare a final report outlining the findings of the study as follows:

1. To identify a strategy for economic, social and resource development of the study area.

2. To prepare a transportation system plan and implementation schedule related to the development strategy.

A P P E N D I X E

SURFACE TRANSPORTATION
TRANSPORTS DE SURFACE

CANADA

DEPARTMENT OF TRANSPORT
MINISTÈRE DES TRANSPORTS

YOUR FILE
VOTRE RÉF:

IN REPLY QUOTE
RÉF. À RAPPELER: S3601-18

Ottawa, K1A ON5,
December 11, 1973.

Mr. Jim Telford,
Assistant Deputy Minister,
Department of Industry & Commerce,
1721 Centennial Building,
Edmonton, Alberta.

Dear Jim:

I am enclosing the revised terms of reference and the study outline for the Northern Alberta Transportation Study which incorporate the changes we discussed during our meeting in Vancouver on December 4th. In addition I have enclosed an outline for the preliminary study which will be completed by the end of January 1974.

Thanks to the great amount of information that Fred Sturm has collected for us, we are proceeding with the preliminary study.

We will be circulating the terms of reference and the study outline to the participating federal departments for their comments after we hear from you.

Yours sincerely,

A.L. Peel,
Director, Highway Branch.

Attach.

Northern Alberta Transportation Study

Background:

The Western Economic Opportunities Conference provided the impetus for the Western Northlands Program. A component of this program is the Transportation Access to the Western Northlands (Highways) Program under which the Federal Government has agreed to share with the Provinces, the cost of improving access to the northern parts of the Western Provinces. This joint program will begin in 1974. MOT and DREE are the two Federal departments involved in the access improvement program.

At present no decisions have been made on funding specific transportation projects in Northern Alberta. Before decisions can be made it is necessary to establish a Federal-Provincial strategy for transportation system development in Northern Alberta. Developing such a strategy requires a detailed assessment of the natural and human resource potential of Northern Alberta and the determination of the kind of transportation system that is required to support this development. This assessment of the resource potential and related transportation requirements is required so that immediate system improvements, required for a 1974 program, can be related to a long-term program for system improvements.

Attached are terms of reference for the major study, an outline of the preliminary study, and an outline for the major study.

December 6, 1973

NORTHERN ALBERTA TRANSPORTATION STUDY

Terms of Reference

Objective of the Study

To determine the transportation system improvements and priorities that will contribute to optimal, natural and human resource development within the study area during the period 1974 to 1994.

The Study Area

Northern Alberta is defined specifically as Census Divisions 12, 13, 14, and 15. However, the impact of development taking place in contigcus areas of Saskatchewan, N.W.T. and B.C. must also be considered.

The Study Group

An inter-governmental study group - Federal/Provincial will conduct the study. The Highway Branch of the Ministry of Transport and the Transportation Research and Development Division of the Alberta Department of Industry, Trade and Commerce will be the lead agencies. To the extent that it is possible, the study will be conducted using resources available within the two branches of government.

The Study Group is directed to:

Natural Resources

- to collect, document, and organize existing data on the renewable and non-renewable natural resources of the study area.
- to prepare an inventory of the renewable and non-renewable natural resources of the study area.
- to assess the economic potential of the renewable and non-renewable resources of the study area.
- to determine the benefits that will accrue to each renewable and non-renewable resource sector from proposed transportation system improvements.

Environmental Study

- to collect, document, and organize the existing environmental data within the study area.
- to prepare an inventory of the soils, wildlife habitat, plant associations, climate, physiography and hydrology of the study area.

- to define transportation corridors within the study area that minimize environmental damage.
- to determine environmental damage that might result from proposed transportation improvements.

Human Resources

- to collect, document and organize existing data on the demographic and social conditions of people living within the study area.
- to determine population and labour force requirements necessary to carry out resource development.
- to assess the potential impact of resources development and transportation system improvements on the social and economic condition of the people living within the study area.

Economic Base

- to collect, document and organize existing data on the economic base of the study area.
- to determine the economic linkages that exist in the economy of the study area.
- to assess the potential impact of resource development on the economy of the study area.

Transportation

- to collect, document and organize existing data on the transportation system within the study area.
- to define the transportation system within the study area in terms of mode, capacity commodity movement, passenger movement standards, operating costs, and revenues.
- to determine existing and future transportation demand within the study area.
- to recommend transportation system improvements intended to contribute to optimal, human and natural resource development.

Exogenous Transportation Needs

- to collect, document and organize existing data on the transportation systems in areas contigous to the study area.
- to determine existing and future exogenous transportation demands that will impinge on the transportation system in the study area.

... 3

Reporting

- Phase 1 - By January 31, 1974

To compile an interim report summarizing the results of data collection, documentation and inventory phases of the study.

To recommend for 1974, a transportation system improvements program which will be consistent with the long term development possibilities of the study area.

- Phase 2 - By August 31, 1974

To prepare a final report detailing a transportation system plan and implementation schedule, consistent with a long term strategy for the development of the economic and human resources of the study area.

Phase I — Outline for the Preliminary Study

Objective:

- To determine the immediate improvements that can be made to the transportation system of Northern Alberta, which are in keeping with a long-term development strategy for the study area.

Step 1:

- To obtain from each resource sector a preliminary assessment of ongoing, proposed, and most likely future development of resources in the study area, a) over the next 10 years, b) over the next 20 years.
- To obtain from each resource sector a list of transportation improvements that would make resource development more efficient.

Step 2:

- To obtain information on areas of special environmental significance where transportation improvement could have a negative impact.

Step 3:

- To obtain information on the distribution of population in the study area and to identify, where possible, problems that may be alleviated by transportation improvement, and opportunities that could be exploited by transportation system improvements.

Step 4:

- To assess the transportation system in view of the information collection above and recommend immediate improvements to the system.

Step 5:

To re-evaluate approach to major study based on findings of the preliminary study.

Northern Alberta Transportation Study

Phase II (Suggested Study Outline)

This paper is a suggested outline of the process to be followed in completing the Northern Alberta Transportation Study.

Step 1, Specification of the terms of reference for the study

- planning period
- study area boundaries
- costing and staffing

Step II, Preparation and circulation of an annotated bibliography to all study participants

Purpose: To acquaint all study participants with the available reports and background data dealing with the study area.

Step III, Circulation of the study outline to all participants and the determination of data specifications for each stage of the study

Purpose: To elicit critical comment on the organization of the study and to determine the specific data inputs that are required and the data outputs that will be generated at each stage of the study.

Step IV, Preparation of required inventories

A. Natural Resources and Resource Potential

Purpose: To detail the type, quantity, quality, and economic potential of the natural resources within the study area.

a) Minerals - (metallic and non-metallic) general data requirements

- type, quantity, quality and value of minerals
- location of minerals
- proven reserves
- potential reserves
- operating mines, mills, and output
- methods of mining
- waste products generated
- sepcial development problems
- sector specific transport requirements, costs, preferred mode

- existing markets
- market stability
- possible markets and market outlook
- competing sources of mineral and potential substitutes
- labour force requirements, skills required, mechanization potential

b) Hydrocarbons, general data requirements

- type, quantity, quality and value of hydrocarbons
- location of hydrocarbons
- proven reserves
- potential reserves
- sustainable production levels
- methods of recovery
- waste products generated
- special development problems
- sector specific transportation requirements, costs, preferred mode
- existing markets
- possible markets and market outlook
- competing sources of energy or potential substitutes
- labour force requirements, skills required, mechanization potential.

c) Forestry, general data requirements

- types, quantity, quality and value of timber resources
- timber supply and product suitability
- allowable annual cut
- actual cut
- surplus timber supply
- boundaries of timber leases, etc.
- location and capacity of operating sawmills, pumpmills, plywood plants, etc.
- proposed sawmills, pulpmills, plywood plants, location and capacity.
- sector specific transportation requirement costs - preferred modes
- existing markets
- possible markets and market outlook
- competing sources of timber and potential substitutes
- labour force requirements, number of employees, required skills, etc.

d) Fisheries, general data requirements

- type, quantity, quality and value of catch
- location of fisheries
- sustainable catch
- existing markets
- sector specific transport requirements, preferred modes, costs
- possible markets and market outlook
- labour force requirements, number of employees and required skills.

e) Agriculture, general data requirements

- arable acreage (by class)
- developed acreage (by class)
- crops and potential crops
- crop value
- markets and potential markets
- sector specific transportation requirements desired mode
- required related infrastructure, elevators, stockyards, etc.

f) Recreation and Tourism - general data requirements

- areas of recreational significance, type, features, location
- developed recreational areas, parks, etc.
- potential of undeveloped recreational areas
- present levels of recreational tourist activity, number of visits, expenditures, etc.
- potential recreational tourist activity.

B. Human Resources

Purpose: To determine the socio-economic and demographic characteristics of people within the study area and to identify social problems that might be alleviated or aggravated by resource development and consequent population increase.

- general data requirements
- population - size, geographic distribution, forecasts
- social indicators, unemployment, welfare rolls, infant mortality rate, death rate
- labour force characteristics - size, geographic distribution and forecasts
- community infrastructure - schools, hospitals, nursing stations, other public services
- Indian communities, location, size, population and forecasts.

C. Environment

Purpose: To assemble relevant data necessary to identify transportation corridors that have a minimum impact on the environment,or failing this, to determine especially fragile environmental areas to be avoided when choosing transportation corridors.

- general data requirements
- climate
- physiography
- hydrology
- soils
- wildlife habitat
- plant associations.

D. Transportation System

Purpose: To describe the transportation system within the study area in terms of demand, capacity, standards, costs and the revenues generated. The following modes are considered:

- highways
- rail
- air
- water
- pipeline

E. Economic Base

Purpose: To describe the economic base of the study area, that is, to identify the basic and service sectors of the economy and determine economic linkages.

F. Exogenous Transportation Demand

Purpose: To determine the extent that transportation demands, generated in the N.W.T., Saskatchewan, and B.C. may affect existing or proposed transportation facilities in the study area.

Step V, Agreement on Resource Development Strategy

Step VI, Preparation of Transportation Scenarios

Purpose: To describe in detail, alternative methods of satisfying anticipated transportation demand resulting from resource development.

Requires selection of transportation corridors, mode specifications, determination of standards, capital

Step VII, Sector by sector analysis of the economic, environmental, and social impact of the proposed transportation improvements

Purpose: To allow experts in each Federal and Provincial resource field an opportunity to assess and comment on the expected impact of proposed transportation improvements (The amount of detail that can be generated by this analysis will depend upon the quality of the data produced during the inventory phase and the degree of detail provided in the development plan).

Step VIII, Preparation of a recommended transportation plan

A P P E N D I X F

FILE: A-48-5

Industry and Commerce

F. H. Peacock
Minister
Alberta Industry and Commerce

Hon. C. Copithorne
Minister
Alberta Highways and Transport

11 December 1973

Re: Alberta Northern Transportation Study

I have now received a full report further to our discussion this afternoon concerning the Vancouver meeting of December 5th, which was held in conjunction with the Federal/Provincial officials' committee meetings. The objective of this meeting was to define final terms of reference and apportion Federal/Provincial responsibilities for research requirements. The meeting dealt with the study design and dates of completion to provide research necessary to allow for transport planning by all modes to service resource and social development of not only Alberta but our northern trade routes with British Columbia, Saskatchewan, Yukon and the Northwest Territories. This joint work has been undertaken by my Transport Division to fulfill agreement between the Hon. Jean Marchand and myself to extend the Northwest Transportation Plan, which was primarily B.C. oriented, to include Alberta interests; to fulfill the WEOC commitment to develop a plan for transport development within Northern Alberta; and to provide Mr. Getty in his DREE negotiations with the material for the basis of a sub-agreement covering the complete transport infrastructure in this area.

cont'd....

At this meeting there was little discussion of the sub-components of the study and as a result the departments (which are listed in the attached briefing document), which will have an input, were not represented. The Alberta Northern Development Committee, who have an over-all policy responsibility, were in attendance because of their over-all role.

Your department officials were included in the initial meetings on DREE and in the Northwest Transportation Plan, and, have been co-operating with us in this broad inter-modal transport research.

I can assure you that your Department will be included in this project along with all other Government departments listed in the briefing document as the research progresses.

F. H. Peacock, Minister

A P P E N D I X G

A-48-5
file

INDUSTRY AND COMMERCE

J. W. Telford
Assistant Deputy Minister (Acting)
Transport Research and Development
Room 1702 Centennial Building

L. D. Mabbott
Assistant Deputy Minister
Federal and Intergovernmental Affairs
506 Blue Cross Building
10025 - 108 Street
EDMONTON, Alberta T5J 1K9

December 20, 1973

RE: DREE SUB-AGREEMENT - TRANSPORT

Further to our discussions in Vancouver, I would advise that on December 5, I met with the Ministry of Transport Officials and Bob Carney from Northern Development concerning extension of the federal Northwest Transportation Plan and the development of a Northern Alberta Transportation Plan.

From previous meetings with the Federal Government on the extension of this Plan and the development of an Alberta position on transport for the sub-agreement under DREE, it was agreed that a co-ordinated position on transportation matters was required. Funding would be under the DREE agreement or under the economic criteria as set out by MOT. Such a plan was suggested in the earlier meeting to develop a co-ordinated position on transport requirements for highways and air to fulfill our Northern Development objectives. It was our intention that where highway priorities must be deferred because of economic or other reasons, that air facilities development would be used to create a transport infrastructure that meets the needs for social de-isolation and economic development.

More specifically concerning the highway development plan for the north, you will remember that I received your O.K. to release the preliminary list of highway projects. It was my impression that before a further proposal was released, it would first be scrutinized by Northern Development and Industry and Commerce as well as other organizations involved in Economic Development in the North to assure that the Government of Alberta's priorities were, in fact, presented to the Federal Government for consideration under the DREE sub-agreement or the normal MOT criteria.

...2

At the meeting in Vancouver, the MOT advised that our Department of Highways and Transport had provided them at a meeting in Dauphin, with a copy of the proposed Transport Development in Northern Alberta as developed by them. MOT provided us with a copy of this document and assured us that our original agreement to develop a co-ordinated transport infrastructure was still intact.

The research is presently underway, tasks are assigned and the first run will be complete by January 31 which will allow the Federal and Alberta Governments to enter into a one year agreement on immediate priority items. The more detailed research work will be complete by August 31 and will provide back-up information for completion of a five-year agreement.

This material will be provided to you for negotiation of the actual sub-agreement.

J. W. Telford

JWT/acd
cc: F. H. Peacock
D. J. McEachran
E. Carney

A P P E N D I X H

Alberta

INDUSTRY AND COMMERCE

MEMORANDUM

Transport Research and Development Division

FROM M. J. Sturm
A/Director - Policy Planning
and Research

OUR FILE REFERENCE

YOUR FILE REFERENCE

TO

DATE 8 April 1974

TELEPHONE 424-8066

SUBJECT NORTHERN ALBERTA TRANSPORTATION STUDY

As indicated in our initial discussions with your Department, when we gathered information for Phase I of the Study, your participation is kindly requested at a meeting to initiate the more detailed Phase 2 - Final Report - to be held as follows:

Date: April 18, 1974

Place: Boardroom, 1710 Centennial Building

Time: 2 P.M.

As the final report will require more detailed input, your attendance and assistance will be greatly appreciated.

M. J. Sturm

MJS/jdd

NORTHERN ALBERTA TRANSPORTATION STUDY

Department of Lands & Forests, Natural Resources Bldg. 9833-109 St.

1.	Mr. Cliff Smith or Mr. C. Jackson Head, Timber Management Branch	229-3151
2.	Mr. Drinkwater or Mr. W.D. Munn Provincial Parks Division	229-3073
3.	Mr. G. Kerr Director of Fish & Wildlife	229-4461
4.	Mr. A. Facco Head, Special Land Use Branch	229-3378
5.	Mr. C. E. Paquin Director of Lands	229-3378
6.	Mr. F. W. McDougall Director of Forestry	229-3458
7.	Mr. G. M. Stuart Forest Land Use	229-3185
8.	Mr. F. Platt Supervisor of Fire Control	10625 - 120 Avenue 479-5921

Mines & Minerals, 7th Floor, Petroleum Plaza, 9934-108 Street

9.	Dr. G. B. Mellon Deputy Minister	426-2150

Municipal Affairs, 10363-108 Street

10.	Mr. W. D. Isbister Deputy Minister	424-9596
11.	Mr. Barry Giffen, Planning Branch Planning Officer	8th Flr. Workmen's Comp. Bldg. 9912-107 Street 429-4821

Environment, Milner Building, 10040-104 Street

12.	Mr. H. Thiessen Assistant Deputy Minister	425-1130

Northern Development, 206 Blue Cross Building, 10025-108 Street

13.	Dr. Bob Carney Executive Director	429-2604

Agriculture, 9718-107 Street

14. Dr. G. R. Purnell
Deputy Minister 424-0464

15. Mr. Hugh Bryce
Branch Head Statistics Branch 425-9410

Culture, Youth and Recreation, 14th Floor, C. N. Tower

16. Mr. C. L. Usher
Deputy Minister 229-3928

Industry and Commerce, 1529 Centennial Building

17. Mr. K. Broadfoot
Executive Director, Regional
Services 424-0437

Department of Highways, Highways Building, 106 St. & 97 Ave.

18. Mr. Bob Cronkhite
Chief Highways Engineer 229-3617

19. Mr. M. Dolinsky
Chief Engineer Planning Branch 229-4361

A P P E N D I X I

PROVINCIAL COMMITTEE MEMBERS

AGRICULTURE

Dr. J. E. Wiebe
Chairman, Policy & Liaison Secretariat — 429-4707

Mr. Thompson

HIGHWAYS & TRANSPORT

M. J. Dolinsky
Chief Engineer, Planning Branch — 229-4361

G. Halls

ENVIRONMENT

K. R. Smith
Director, Interdepartmental Relations Division — 425-1130 ex. 382

NORTHERN DEVELOPMENT

Paul Conway — 429-2604

PROVINCIAL PLANNING

M. Dant
Provincial Planning Director — 429-4821

MINES & MINERALS

M. J. Day
Director, Mineral Division — 426-2150

LANDS & FORESTS

Ken Smith
Economics Section, Timber Management Branch — 229-3191

YOUTH, CULTURE & RECREATION

L. L. Keown
Director, Planning & Development — 424-2181

ALBERTA FOREST SERVICE

Fred W. McDougall
Director of Forestry — 229-3458

A P P E N D I X J

ALBERTA NORTHERN TRANSPORTATION STUDY

MEETING

DATE - MAY 2

Place - Boardroom, 1710 Centennial Bldg.

Time - 9:30 A.M.

THE ALBERTA-NORTH TRANSPORTATION STUDY

Background

The Western Northlands Program resulted from the Western Economic Opportunities Conference held last summer. This program calls for a Federal Government expenditure of $20 million per year for a 10 year period to upgrade transportation facilities in the northern part of the four Western Provinces. A total of $5 million per year will be spent in each province. In order to determine how to best spend these funds a joint Federal-Provincial Transportation Study has been initiated. This study will examine all modes of transportation serving Northern Alberta (defined as Census Divisions 12, 13, 14 and 15). The study has a 20-year time horizon, but for forecasting purposes, two successive 10-year periods will be considered.

Because the Western Northlands Program begins in 1974, a preliminary examination of the resource potential and the transportation system of Northern Alberta has been conducted. A copy of the report is attached, also included are the terms of reference for the study which is now being initiated.

The Study Group

The study will be carried out by a Federal-Provincial study group. Fred Sturm of the Department of Industry and Commerce, Transport Research and Development Branch is the Provincial co-ordinator, and Dave Morris of the Ministry of Transport, Highways Branch is the Federal co-ordinator. Because the study is multidisciplinary in nature, various government departments and agencies have been asked to contribute directly to the study. To the extent that it is possible, the study will be conducted using resources within the two levels of government.

Purpose of the Study

A fundamental premise of this study is that transportation is not an end in itself: it exists to serve economic and social purposes. With respect to Northern Alberta, the purposes are resource development and social improvement. Therefore, the purpose of this study is to determine the economic potential of the study area; the desired social changes, and the transportation system improvement necessary to achieve economic and social objectives. Specifically, the main tasks of the study are to determine:

1) The characteristics of the transportation system, its capacity, its present usage and its standards,

2) The present and future demands that are, and will be placed on the transportation system,

3) The improvements that will be required to meet future demand, their cost, and the benefits that will accrue from the improvements and,

4) The socially necessary transportation system improvements, their cost, and the benefits that will accrue from them.

Study Method

For discussion purposes the study can be divided into two basic sections; the first involves a determination of the capacity of the transportation system, the demands that will be placed upon it, and the improvements necessary to meet the anticipated demand. The second section involves the specification of the economic and social benefits that will result from proposed transportation system improvements. In many ways, the latter part is the more difficult task to complete, because of the difficulty involved in finding suitable measures and the problem of finding a workable method of analysis. The "with or without" benefit cost analysis method has been selected for use in this study. Essentially the method requires the determination of possible economic and social development over a specified period with no improvement to the transportation system, as compared to economic and social developments that would result from specified transportation system improvements.

There are a number of economic and social benefits that can be directly related to transportation system improvements; they are:

1) savings in cost to users of the transportation system,

2) savings in the cost of maintaining the transportation system, and,

3) the net value of new or added production or social benefits that can be directly related to the provision or improvement of a specific transportation link or facility.

The first two benefits are standard elements in the economic analysis of possible transportation investments, the third is not often used as it is more difficult to measure. Nevertheless, this study will attempt to measure all three types of benefits. In order to do this adequately, comprehensive data on the economic potential of each resource sector is required, and a comprehensive assessment of social conditions is also necessary.

DATA REQUIREMENTS

Natural Resources

Initially, the study area has to be divided into standard geographical units for data collection and analytical purposes. At this time the most appropriate zones or cells appear to be the existing forest districts, mainly because data is presently collected within these units and forests are the most uniformly distributed natural resource.

The next step is the preparation of a detailed inventory and analysis of the resources in each cell. This analysis will cover the following sectors:

1) Forestry

2) Agriculture

3) Commercial Fishing

4) Mineral Extraction

5) Recreation and Tourism

6) Miscellaneous

The inventory of each sector should cover the following points:

1) Overall potential of resources sector by cell including volume, quality suitability, cost of production/extraction.

2) The present "resource sector" development by cell, including estimates of employment, production, sales revenue, operating costs, intermediate and final destination of output by transportation modes.

3) (a) Potential resource sector development by cell related to anticipated markets, existing transportation facilities, including estimates of employment, production, sales revenue, operating costs, and intermediate and final destination of output by transportation mode.

(b) Potential resource sector development by cell related to specified transportation improvements, including estimates of employment production (over a specified period), sales revenue, operating costs, and final destination of output by transportation mode.

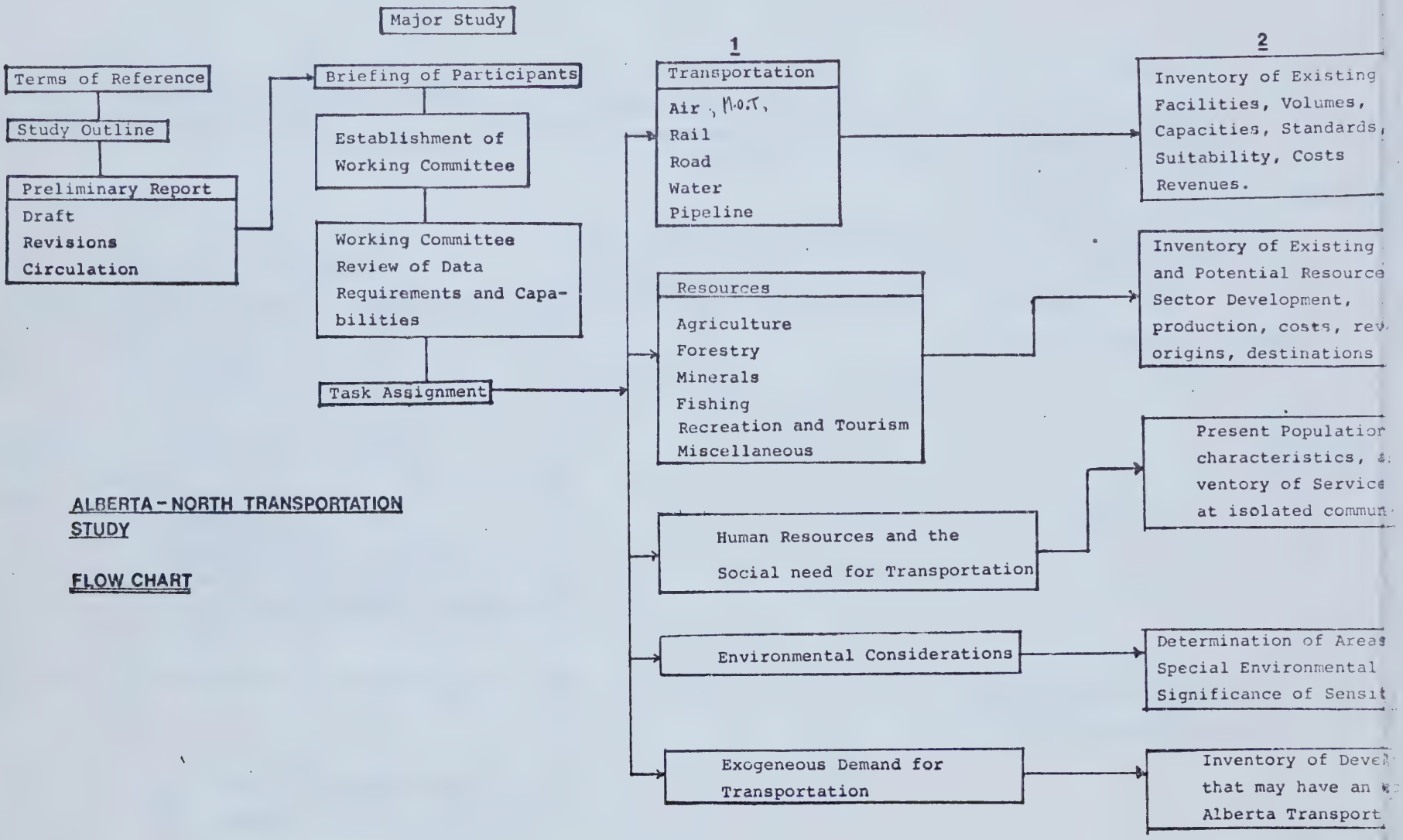
Obviously not all of the above data will be available and the problem will be more acute in some sectors than in others. It is also apparent that data will have to be specified in different terms for some sectors. Also evident is the fact that simplifying assumptions will have to be made and certain average figures or rules of thumb used. However, as long as these conditions are made clear and reasons specified, no insurmountable problem is anticipated in completing the study.

Human Resources

Of particular concern in this portion of the study will be the transportation needs of people in remote or isolated settlements. What is needed is the type of data that will provide an index of the relative need of various settlements for improved transportation. Measures such as the kinds of public facilities available to residents, the accessibility of emergency facilities, the accessibility of employment and training opportunities, the availability of transportation services and their cost, and the economic potential of the settlement may help to establish the relative need of various settlements. While the need for transportation to remote communities may be defined in the abstract, it is recognized that any proposals for improved transportation to isolated communities will have to be discussed with the affected people.

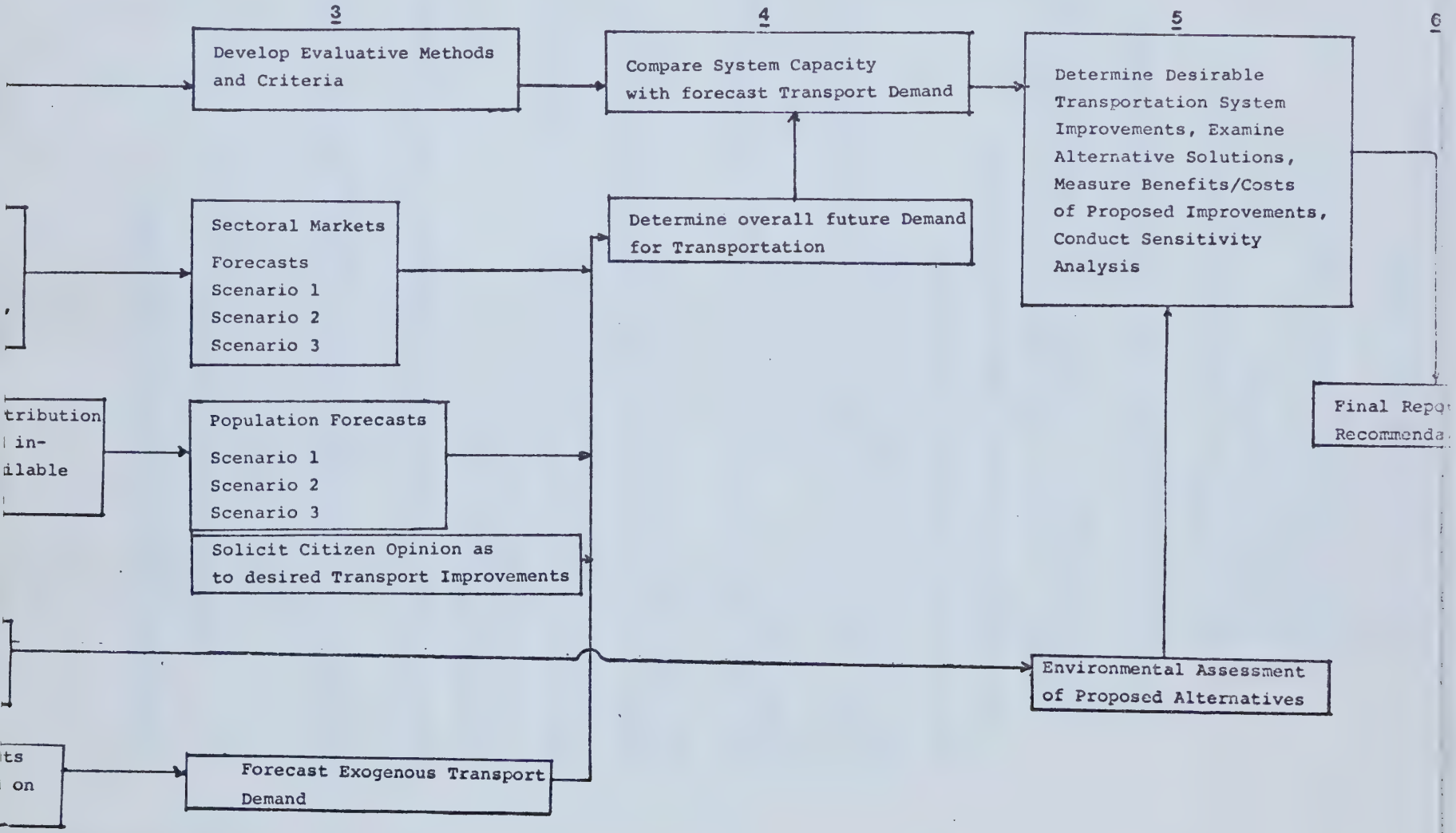
Environmental Considerations

Of necessity and by design this study will include or recommend an environmental impact study for all proposed projects thought to have negative environmental impact. Considering the size of the study area and the great deal of information required to conduct environmental assessments, the first phase of this portion of the study is expected to consist of collecting and organizing existing environmental data, and identifying areas with especially sensitive or unique features that should be avoided when considering transportation routes. Since analysis will no doubt reveal many areas where no transportation changes will be necessary, attention can then be directed to those areas where new facilities or changes are necessary.



ALBERTA - NORTH TRANSPORTATION STUDY

FLOW CHART


3
Develop Evaluative Methods and Criteria
4
Compare System Capacity with forecast Transport Demand
5
Determine Desirable Transportation System Improvements, Examine Alternative Solutions, Measure Benefits/Costs of Proposed Improvements, Conduct Sensitivity Analysis
6
Sectoral Markets
Forecasts
Scenario 1
Scenario 2
Scenario 3
Determine overall future Demand for Transportation
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Population Forecasts
Scenario 1
Scenario 2
Scenario 3
Solicit Citizen Opinion as to desired Transport Improvements
Final Repo
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Environmental Assessment of Proposed Alternatives
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Northern Alberta Transportation Study

Phase II (Suggested Study Outline)

This paper is a suggested outline of the process to be followed in completing the Northern Alberta Transportation Study.

Step 1, Specification of the terms of reference for the study

- planning period
- study area boundaries
- costing and staffing

Step II, Preparation and circulation of an annotated bibliography to all study participants

Purpose: To acquaint all study participants with the available reports and background data dealing with the study area.

Step III, Circulation of the study outline to all participants and the determination of data specifications for each stage of the study

Purpose: To elicit critical comment on the organization of the study and to determine the specific data inputs that are required and the data outputs that will be generated at each stage of the study.

Step IV, Preparation of required inventories

A. Natural Resources and Resource Potential

Purpose: To detail the type, quantity, quality, and economic potential of the natural resources within the study area.

a) Minerals - (metallic and non-metallic) general data requirements

- type, quantity, quality and value of minerals
- location of minerals
- proven reserves
- potential reserves
- operating mines, mills, and output
- methods of mining
- waste products generated
- sepcial development problems
- sector specific transport requirements,

- existing markets
- market stability
- possible markets and market outlook
- competing sources of mineral and potential substitutes
- labour force requirements, skills required, mechanization potential

b) Hydrocarbons, general data requirements

- type, quantity, quality and value of hydrocarbons
- location of hydrocarbons
- proven reserves
- potential reserves
- sustainable production levels
- methods of recovery
- waste products generated
- special development problems
- sector specific transportation requirements, costs, preferred mode
- existing markets
- possible markets and market outlook
- competing sources of energy or potential substitutes
- labour force requirements, skills required, mechanization potential.

c) Forestry, general data requirements

- types, quantity, quality and value of timber resources
- timber supply and product suitability
- allowable annual cut
- actual cut
- surplus timber supply
- boundaries of timber leases, etc.
- location and capacity of operating sawmills, pumpmills, plywood plants, etc.
- proposed sawmills, pulpmills, plywood plants, location and capacity.
- sector specific transportation requirement costs - preferred modes
- existing markets
- possible markets and market outlook
- competing sources of timber and potential substitutes
- labour force requirements, number of employees, required skills, etc.

d) Fisheries, general data requirements

- type, quantity, quality and value of catch
- location of fisheries
- sustainable catch
- existing markets
- sector specific transport requirements, preferred modes, costs
- possible markets and market outlook
- labour force requirements, number of employees and required skills.

e) Agriculture, general data requirements

- arable acreage (by class)
- developed acreage (by class)
- crops and potential crops
- crop value
- markets and potential markets
- sector specific transportation requirements desired mode
- required related infrastructure, elevators, stockyards, etc.

f) Recreation and Tourism - general data requirements

- areas of recreational significance, type, features, location
- developed recreational areas, parks, etc.
- potential of undeveloped recreational areas
- present levels of recreational tourist activity, number of visits, expenditures, etc.
- potential recreational tourist activity.

B. Human Resources

Purpose: To determine the socio-economic and demographic characteristics of people within the study area and to identify social problems that might be alleviated or aggravated by resource development and consequent population increase.

- general data requirements
- population - size, geographic distribution, forecasts
- social indicators, unemployment, welfare rolls, infant mortality rate, death rate
- labour force characteristics - size, geographic distribution and forecasts
- community infrastructure - schools, hospitals, nursing stations, other public services
- Indian communities, location, size, population and forecasts.

C. Environment

Purpose: To assemble relevant data necessary to identify transportation corridors that have a minimum impact on the environment,or failing this, to determine especially fragile environmental areas to be avoided when choosing transportation corridors.

- general data requirements
- climate
- physiography
- hydrology
- soils
- wildlife habitat
- plant associations.

D. Transportation System

Purpose: To describe the transportation system within the study area in terms of demand, capacity, standards, costs and the revenues generated. The following modes are considered:

- highways
- rail
- air
- water
- pipeline

E. Economic Base

Purpose: To describe the economic base of the study area, that is, to identify the basic and service sectors of the economy and determine economic linkages.

F. Exogenous Transportation Demand

Purpose: To determine the extent that transportation demands, generated in the N.W.T., Saskatchewan, and B.C. may affect existing or proposed transportation facilities in the study area.

Step V, Agreement on Resource Development Strategy

Step VI, Preparation of Transportation Scenarios

Purpose: To describe in detail, alternative methods of satisfying anticipated transportation demand resulting from resource development.

Requires selection of transportation corridors, mode specifications, determination of standards, capital costs, operating costs, etc.

Step VII, Sector by sector analysis of the economic, environmental, and social impact of the proposed transportation improvements

Purpose: To allow experts in each Federal and Provincial resource field an opportunity to assess and comment on the expected impact of proposed transportation improvements (The amount of detail that can be generated by this analysis will depend upon the quality of the data produced during the inventory phase and the degree of detail provided in the development plan).

Step VIII, Preparation of a recommended transportation plan

Comments On Alberta North Transportation Study

1.) Reduce the information gathered in each area to minimum required.

2.) Concentrate on potential developments in each resource area and back up data.

3.) More information and detailed analysis of existing transportation system (all modes).

4.) Carry out a scaled down version of study as outlined in view of time period.

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